IBM Magstar 3590 Model A60 Enhances Performance and Connectivity With Native FICON Attachment

Overview

The Magstar® 3590 Tape Subsystem, which provides a high level of performance, reliability, data integrity, and cartridge capacity, now has additional performance and connectivity benefits with support for native Fibre CONnections (FICON™) attachment. Now, you can attach your Magstar 3590 A60 Tape Controller to native FICON channels on systems such as the IBM 9672 Enterprise G5 or G6 Servers. Up to two FICON attachments are supported on each Magstar 3590 Model A60 Tape Controller in standalone, Magstar 3494 Tape Library, and StorageTek Silo solutions.

In addition, the 3590 Model A60 supports the intermix of FICON and ESCON® attachments, allowing you to share drives between each environment. The FICON maximum channel link speed of 100 MB/sec full duplex versus 17 MB/sec simplex for ESCON may increase tape performance. The 3590 Model A60 can be directly attached to host systems up to 10 kilometers away (up to 20 kilometers with an RPQ), or up to 100 kilometers with a FICON/FC switch with appropriate repeaters.

FICON support is available for Magstar 3590 B or E Models attached to new 3590 Model A60 Tape Controllers or via a field upgrade on currently installed Model A60 controllers, protecting your tape hardware investment.

This function fulfills the FICON support included in the previous announcement Product Preview. Refer to Hardware Announcement 100-049, dated February 29, 2000.

Key Prerequisites

A processor with FICON channels and the appropriate levels of hardware and software that support native FICON are required. FICON Attachment feature number 3432 is required on the Magstar 3590 Model A60 Controller. In addition, appropriate cabling features are required on the processor and controller.

Planned Availability Date

December 8, 2000

At a Glance

Native Fibre CONnections (FICON) attachment is now supported on the Magstar 3590 Model A60 Tape Controller, that can enable the following additional performance and connectivity benefits:

• Support for up to two FICON attachments per Model A60
• Drive sharing between FICON and ESCON environments
• Enhanced tape performance
• Increased attachment distance

For ordering, contact:
Your IBM representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL

Reference: YE001

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Description

The Magstar 3590 Model A60 Controller, with native FICON, can increase performance and attachment distance over ESCON. And in combination with FICON-capable processors such as IBM 9672 Parallel Enterprise G5 or G6 Servers, applications such as remote vaulting are enhanced due to the performance of FICON at increased distances compared to ESCON. FICON also enables easier server consolidation, new application growth, large business intelligence queries, and exploitation of network computing.

Year 2000

This product does not have date dependencies and is, therefore, Year 2000 ready.

Euro Currency

This product is not impacted by euro currency.

Product Positioning

The Magstar 3590 Model A60 Controller can provide both a stand-alone and automated attachment of the highest capacity, highest performance tape drive that IBM offers today. In combination with FICON-capable processors such as the IBM 9672 Parallel Enterprise G5 or G6 Servers, the Model A60 with native FICON attachment, improvements in tape performance and attachment distance are possible. In addition, by utilizing the Model A60 with FICON, you can receive many of the FICON benefits. These include relieving ESCON channel constraints, conserving processor I/O slots, and reducing infrastructure costs.

Statement of General Direction

IBM plans to further augment the Magstar 3590 Model A60 Controller SAN capabilities by providing attachment to FICON shortwave connections.

All information being released represents IBM’s current intent, is subject to change or withdrawal, and represents only goals and objectives.

Reference Information


Trademarks

FICON is a trademark of International Business Machines Corporation in the United States or other countries or both. Magstar and ESCON are registered trademarks of International Business Machines Corporation in the United States or other countries or both. Other company, product, and service names may be trademarks or service marks of others.
Publications

An update to the following publications, that will include support of these features, is available now at:


<table>
<thead>
<tr>
<th>Title</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM Magstar 3590 Tape Subsystem G</td>
<td>A32-0329</td>
</tr>
<tr>
<td>Introduction and Planning Guide</td>
<td></td>
</tr>
<tr>
<td>IBM Magstar 3590 Tape Subsystem G</td>
<td>A32-0366</td>
</tr>
<tr>
<td>Silo Compatible Frame Models C10, C12, and C14 Introduction, Planning, and User’s Guide</td>
<td></td>
</tr>
</tbody>
</table>

The IBM Magstar 3494 Tape Library Introduction and Planning Guide (GA32-0279) will be updated to include this information on the 3590 Model A60 and is planned to be available at the same Web site by October 17, 2000.

The IBM Magstar 3590 Tape Subsystem Operator’s Guide (GA32-0330) will be updated to include these features and is shipped with the product. Additional copies will be available with the planned availability of that attachment.

The Publication Notification System (PNS) is available by order number/product number. Customers currently subscribing to PNS will automatically receive notifications by e-mail. Customers who wish to subscribe, can visit the PNS Web site location at:


The publications listed on the notification can be ordered by calling the Pubs Support Group in Raleigh at 800-879-2755, option 1.

Technical Information

Specified Operating Environment

**Hardware Requirements:** The Magstar 3590 Model A60 Controller now provides attachment of Magstar 3590 Tape Drives to FICON™ channels on host systems or a FICON/FC switch. The number of FICON adapters on the 3590 Model A60 is specified with feature number 3432 (FICON Attachment — Long Wave). Each FICON attachment can connect up to 64 logical channels. Either one feature number 3432 (FICON Attachment — Long Wave) or one feature number 3412 (Dual ESCON® Attachment) must be specified on each Model A60. Permitted combinations of feature numbers 3412 and 3432 are as follows:

<table>
<thead>
<tr>
<th>Feature Number</th>
<th>Feature Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 4</td>
<td>0</td>
</tr>
<tr>
<td>0 to 3</td>
<td>1</td>
</tr>
<tr>
<td>0 to 2</td>
<td>2</td>
</tr>
</tbody>
</table>

A feature conversion is available to convert installed feature number 3412 to feature number 3432.

The 3590 Model A60 with FICON attachments can be placed in a 3494 Tape Library, in a 3590 Model A14 Frame, in a standard 19-inch rack, or in a Model C10 Silo Compatible Frame for attachment to Magstar 3590 Tape Drives in a Model C12 or C14 Silo Compatible Frame.

One 31 meter (100 foot) Single Mode 9 micron fibre cable with SC Duplex Connectors is included with each feature number 3432 (FICON Attachment — Long Wave), unless feature numbers 0103 (FICON MCP 50 Micron) or 0106 (FICON MCP 62.5 Micron) are specified. Feature number 0103 (FICON MCP 50 Micron) supplies a two meter (6.56 foot) mode conditioning patch (MCP) cable to permit ESCON trunk fibre reuse of 50 micron cabling for FICON attachment. Feature number 0106 (FICON MCP 62.5 Micron) supplies a two meter (6.56 foot) MCP cable to permit ESCON trunk fibre reuse of 62.5 micron cabling for FICON attachment. A FICON connection can run over a 50 micron or 62.5 micron multimode fibre cables up to a distance of 550 meters (1,804 feet). A FICON connection can run over Single Mode 9 micron fibre cables for direct attachment to host systems up to 10 kilometers away (or up to 20 kilometers away with RPQ 8P1984), or up to a distance of 100 kilometers (62 miles) with a FICON/FC switch with appropriate repeaters. If different FICON cable lengths are needed, they must be ordered separately. Refer to the IBM Magstar 3590 Introduction and Planning Guide (GA32-0329) for FICON cable planning information.

**Feature Conversion**

A feature conversion is also available to convert up to two of installed Dual ESCON Attachment (#3412) to a FICON — Long Wave Attachment (#3422). This feature conversion provides the replacement hardware and includes one 31 meter (100 foot) Single Mode 9 micron fibre cable with SC Duplex Connectors, unless features number 0103 (FICON MCP 50 Micron) or feature number 0106 (FICON MCP 62.5 Micron) are specified.

**Note:** Parts removed or replaced become the property of IBM and must be returned.

**Software Requirements:** The Magstar 3590 B Model or E Model Tape Drives are supported through the 3590 Model A60 Controller on the following minimum operating systems levels with native FICON channels. Refer to the following Web site for the most current information on FICON processor, FICON switch, and operating system levels supported with the Magstar 3590 Model A60 with native FICON:

**OS/390® (MVS/ESA™)**
- OS/390 Release 6 Version 2, or later. PTFs are required for all supported releases of OS/390. Refer to the 3590 and processor (for example, 9672) PSP buckets for details.
- DFSMS/MVS® 1.3.0, or later. Refer to the 3590 and processor (for example, 9672) PSP buckets for details.
- EREP Version 3.5

Support for the 3590 E Model Tape Drives provides controls to allow intermixing 3590 E Model and B Model subsystems in an SMS-managed 3494 Tape Library. Allocations provide a desired drive type that is managed through a data class attribute for the 256-track recording format. Downward read compatibility of 128-track-recorded tapes on 256-track 3590 E Model Tape Drives is exploited in libraries with both 128-track and 256-track subsystems. Shared common media pools are used for both 3590 B and E Models. In a 3494 library, the 3590 E Model drives are set up as type 3590 (not type 3490E). The 3590 E Model software enhancements are required even if you are not intermixing B Model and E Model subsystems in the 3494 library.

For 3590 E Model or B Model Tape Drives not inside 3494 libraries (non-library drives or drives located in silo-compatible frames), the software support cannot manage allocation among multiple drive models that use the same emulation type (for example, 3590 E Model and B Model Tape Drives that are both defined in the I/O configuration as device type 3590). Allocation for different drive models having the same device type must be managed through local procedures such as Basic Tape Library Support (BTLS) or StorageTek’s Host Software Component (HSC). Although the 3590 E Model device support PTFs do not manage allocation issues for mixed B and E Models outside libraries, this maintenance should be applied to realize capacity exploitation benefits with applications such as HSM, OAM, Object support, and DFSORT™, and to enable EREP reporting by true device type or model.

**VM/ESA®**
- VM/ESA Version 2.2, or later. A PTF is required for VM/ESA Version 2.2.0 and 2.3.0. Refer to the 3590 and processor (for example, 9672) PSP buckets for details. The support enables a guest operating system with its own native support to use the FICON attachment. However, the guest operating environment (for example, OS/390) must have its own native support for FICON attachment in order to realize the performance advantage of FICON. Support for native VM/ESA is not available at this time.
- EREP Version 3.5 plus PTFs.

**VSE/ESA™**
Refer to the following Web site for the most current information on VSE/ESA support for the Model A60 with native FICON:


- **Transaction Processing Facility (TPF)**
  Refer to the following Web site for the most current information on TPF support for the Model A60 with native FICON:


**Planning Information**

**Customer Responsibilities:** Physical planning is a customer responsibility. Detailed physical planning information for the Magstar 3590 Tape Drives is in the IBM Magstar 3590 Tape Subsystem Introduction and Planning Guide (GA32-0329).

**Cable Orders:** The 3590 Model A60 attaches with fibre cables to FICON channels of host systems. One 31 meter (100 foot) Single Mode 9 micron fibre cable with SC Duplex Connectors is included with each feature number 3432 (FICON Attachment — Long Wave), unless feature numbers 0103 (FICON MCP 50 Micron) or 0106 (FICON MCP 62.5 Micron) are specified. Feature number 0103 (FICON MCP 50 Micron) supplies a two meter (6.56 foot) mode conditioning patch (MCP) cable to permit ESCON trunk fibre reuse of 50 micron cabling for FICON attachment. Feature number 0106 (FICON MCP 62.5 Micron) supplies a two meter (6.56 foot) mode conditioning patch (MCP) cable to permit ESCON trunk fibre reuse of 62.5 micron cabling for FICON attachment. A FICON connection can run over 50 micron or 62.5 micron multimode fibre cables up to a distance of 550 meters (1,804 feet). A FICON connection can run over Single Mode 9 micron fibre cables up to a distance of 100 km with appropriate repeaters. If different FICON cable lengths are needed, they must be ordered separately. Refer to the IBM Magstar 3590 Introduction and Planning Guide (GA32-0329) for FICON cable planning information.

**Direct Customer Support:** Customers can obtain installation and usage assistance through IBMLink, using the search word 3590. To obtain information on IBMLink, refer to the following Web site:

http://www.ibm.com

**Accessories and/or Supplies:** None required with this feature.

**Security, Auditability, and Control**

This product uses the security and auditibility features of host hardware, host software, and/or application software to which it is attached.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.
Terms and Conditions

This product is available for purchase under the terms of the IBM Customer Agreement.

IBM hardware products are manufactured from new parts and used parts. In some cases, the hardware product may have been previously installed. Regardless, IBM's warranty terms apply.

**MES Discount Applicable**: Equal to the volume commitment discount

### Prices

**Magstar 3590 Model A60 Controller**

<table>
<thead>
<tr>
<th>Description</th>
<th>Feature Number</th>
<th>Purchase Price</th>
<th>MMC</th>
<th>Field Install Only</th>
<th>Plant Install Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>FICON MCP 50 Micron</td>
<td>0103</td>
<td>$ 400</td>
<td>NC</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>FICON MCP 62.5 Micron</td>
<td>0106</td>
<td>400</td>
<td>NC</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>FICON Attachment — Long Wave</td>
<td>3432</td>
<td>17,250</td>
<td>$80</td>
<td>N</td>
<td>N</td>
</tr>
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</table>

MMC = Monthly Maintenance Charge  
NC = No Charge

**ServiceSuite and ServiceElect Maintenance Charges**

<table>
<thead>
<tr>
<th>Description</th>
<th>Feature Number</th>
<th>Monthly On-site</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>24x7</td>
</tr>
<tr>
<td>FICON MCP 50 Micron</td>
<td>0103</td>
<td>NC</td>
</tr>
<tr>
<td>FICON MCP 62.5 Micron</td>
<td>0106</td>
<td>NC</td>
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<tr>
<td>FICON Attachment — Long Wave</td>
<td>3432</td>
<td>$72</td>
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</table>

**Feature Conversion Purchase Price**

The following applies to feature conversions on the 3590 Model A60:

<table>
<thead>
<tr>
<th>Feature Number</th>
<th>Returned Parts</th>
<th>Continuous Maintenance</th>
<th>Feature Conversion Purchase Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>From 3412</td>
<td>To 3432</td>
<td>Y*</td>
<td>N</td>
</tr>
</tbody>
</table>

* Parts removed or replaced become the property of IBM and must be returned.
Use Priority/Reference Code: YE001

Phone: 800-IBM-CALL
Fax: 800-2IBM-FAX
Internet: ibm_direct@us.ibm.com
Mail: IBM Atlanta Sales Center
     Dept. YE001
     P.O. Box 2690
     Atlanta, GA 30301-2690

You can also contact your local IBM Business Partner or IBM representative. To identify them, call 800-IBM-4YOU.

Note: Shipments will begin after the planned availability date.

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Year 2000 Readiness Disclosure